

# PATENT COOPERATION TREATY

# PCT

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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

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(PCT Article 36 and Rule 70)

WIPO PCT  
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Applicant's or agent's file reference mlf.3374.pct.df.e	<b>FOR FURTHER ACTION</b> <small>See Form PCT/PEA/416</small>	
International application No. PCT/GB2004/001138	International filing date (day/month/year) 17.03.2004	Priority date (day/month/year) 20.03.2003
International Patent Classification (IPC) or national classification and IPC G06F1/16, G06F3/02, H04M1/02		
Applicant MULFORD, Andrew		
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 7 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p style="margin-left: 20px;">a. <input type="checkbox"/> sent to the applicant and to the International Bureau a total of sheets, as follows:</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p style="margin-left: 20px;">b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>		
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application</p>		
Date of submission of the demand  19.10.2004	Date of completion of this report  04.03.2005	
Name and mailing address of the international preliminary examining authority:   <div style="margin-left: 20px;"> European Patent Office - Gitschiner Str. 103  D-10958 Berlin  Tel. +49 30 25901 - 0  Fax: +49 30 25901 - 840 </div>	Authorized Officer  Mouton, B  Telephone No. +49 30 25901-670	



**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/GB2004/001138

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**Box No. I Basis of the report**

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1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

**Description, Pages**

1-13 as originally filed

**Claims, Numbers**

1-18 as originally filed

**Drawings, Sheets**

1/5-5/5 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	2-18
	No: Claims	1
Inventive step (IS)	Yes: Claims	
	No: Claims	1-18
Industrial applicability (IA)	Yes: Claims	1-18
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

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**Box No. VII Certain defects in the international application**

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The following defects in the form or contents of the international application have been noted:

see separate sheet

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**Box No. VIII Certain observations on the international application**

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The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Reference is made to the following documents:

D1: US 5 410 333 A (Conway), 25 April 1995  
D2: US 2003/020692 A (Griffin et al.), 30 January 2003  
D3: EP 0 933 908 A (Nokia), 4 August 1999 \*  
D4: EP 0 776 140 A (Nokia), 28 May 1997 \*

\* refers to a document cited as evidence of the skilled person's general knowledge.

2. The subject-matter of independent claim 1 does not meet the requirements of Article 33(2) PCT because, with regard to document D1, it is not new.

This document discloses (see in particular figure 2 and accompanying text) a foldable keyboard (30), where the keyboard (30) comprises two sections (32, 24) connected by a hinge (42). The first section (32) comprises a group of keys (32a) for inputting characters (as part of a standard keyboard), and the second section (34) comprises a group of keys (34a) for inputting commands (e.g. enter or shift keys of a standard keyboard) (see figure 3 and column 3, lines 51 to 69). Moreover, the hinge (42) allows an operator to displace the keyboard (30) from a first position where the two sections face each other (see figure 3) to a second position where the first section is on the opposite side to the second section (see figure 7).

Hence, D1 contains in combination all the features of claim 1, whose subject-matter is therefore not new.

3. The subject-matter of independent claim 1 does not meet the requirements of Article 33(3) PCT because, with respect to D2, it does not involve an inventive step.

This document (see in particular figures 2, 14 and accompanying text) discloses a

keyboard comprising a first section (see figure 2) that contains character keys (901) and a second section (see figure 14b), on the opposite side to the first section, that contains a plurality of functional keys (see paragraph 30).

The subject-matter of claim 1 differs from the teaching of D2 only in that an additional hinge separates the two keyboard sections for providing a second position where the two sections face each other. Keyboards having a hinge separating two sections are widely known (see e.g. D1). The skilled person would use a hinge so that the sections can face each other whenever it is preferred to use the keyboard on a surface (e.g. table or desktop).

Hence, starting from D2 and using only her general knowledge (as exemplified by D1), the skilled person would arrive at the subject-matter of claim 1, which is therefore obvious.

4. Dependent claims 2 to 18 do not contain any additional features which, in combination with the features of any claim to which they refer, meet the requirements of Article 33(3) with respect to inventive step.
  1. Claims 2 and 3 amount to standard key groups in the field of keyboards. The additional features of claims 4 and 5 are standard means for connecting a keyboard to a computer. Those of claim 6 are obvious for the reasons indicated in section 4 above.
  2. The features added by claim 7 (the keys of the second keyboard are remapped when the second section is moved) are rendered obvious by D3 (see in particular paragraphs 25 and 26, where the action of the numerical keypad is changed according to the position of the lid).
  3. The additional features of claim 8 are standard means for inputting commands that the skilled person would build into the keyboard according to user preferences (see e.g. D1, where a wheel 1000 is present on the keyboard). Those of claim 9 are widely known means for improving a user's grip of a hand held device. Those of claim 10 perform purely cognitive functions, which are not technical and cannot therefore contribute to an inventive step.

4. The features added by claim 11 are widely known in the field of portable devices (see e.g. D3, paragraph 25, where the character section of the keyboard is disabled when the lid is closed). Those of claim 12 amount to the standard functions of a computer keyboard (see e.g. the televisions for using with Internet, where a keyboard is used as a remote controller and for browsing Web pages). Those of claim 13 are obvious in the field of telephones (see e.g. D4, figure 5, where a keyboard section 7 faces a display 9 for being used as a phone when the lid is closed).
5. Claims 14 to 16 amount to an additional display screen, as well as its different positions, for using with the character keyboard section. These are features widely known in the art (see e.g. D4, figure 5), and the skilled person would adapt it to the keyboard of D2 in order to augment the surface for displaying information.
6. The additional feature of claim 17 is a standard design option in the field of keyboards. That of claim 18 is known from D2 (see figure 3 and paragraph 37).
5. For the sake of completeness, following minor deficiencies are mentioned:
6. Because of the reasons indicated in the international preliminary examination report, claims 1 to 12 are not allowable. In view of the available prior art, it does not appear that any part of the application could serve as a basis for a new allowable claim. Thus, in the present case it would appear that a negative IPER should be issued.

**Re Item VII**

**Certain defects in the international application**

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the documents D1 to D4 are not identified in the description and the relevant background art disclosed therein is not at least briefly discussed.

**Re Item VIII**

**Certain observations on the international application**

1. Claim 1 seeks to define a physical entity (namely a keyboard) by reference to the entity's use with respect to a second entity (namely an operator) which is not part of the claimed entity. This gives rise to an ambiguity. Although in principle, protection might be obtained for the keyboard *per se*, in the present case there exist many keyboards which are "adapted" or "suitable" for the use indicated in the above claims, so that the subject-matter of this claim can not be defined in such a way as to fulfill the novelty and inventive step requirements of the PCT (see below).

Moreover, the expression "*normal use*" is vague and indefinite, since there are many ways of "normally" using a keyboard. The claim should precise what a normal use is.

2. In claim 1, line 11, the word "*displaced*" is vague and indefinite, since there are many ways of displacing a section with respect to another (e.g. by plugging, sliding, etc.). From the description, it appears that a hinge is positioned between the first and the second keyboard sections so that the second keyboard section can pivot from a position where it is adjacent to the first keyboard section, to a position where it is on the opposite side to the first keyboard section (see page 7, lines 10 to 18 and claim 6)
3. Regarding claim 18, the expression "keys are *ergonomically optimised*" is unclear. First, it is not clear whether the "optimisation" concerns the *layout* (i.e. the specific positions) of the keys or their individual *shapes*. Second, it is not clear with respect to what criterium or parameter any of the above aspects is optimised, since the term ergonomic is vague and can mean different types of "ease of use" (it can be considered that *each* keyboard is ergonomically optimised). From the description, it is clear that the shape of the keys is adapted to the fingers (see page 11, lines 29 to 31).

B. Mouton